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EDITED BY J. McKEEN CATTELL

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EDUCATIONAL REVIEW

EDITED BY WILLIAM McANDREW

Volume XXXII SATURDAY, AUGUST 16, 1930 Number 816

THE UNIVERSITY LIBRARY IN ITS COOPERATIVE ASPECT[1]

By Dr. ERNEST CUSHING RICHARDSON

BIBLIOGRAPHICAL CONSULTANT, LIBRARY OF CONGRESS (FORMER LIBRARIAN OF PRINCETON UNIVERSITY)

A NEW library building is a major event in the life history of a university. Such a building is at the same time a sign that the university is very much alive and an effective means of making it more alive.

A professional librarian reads plainly from this building now dedicated several pointed facts about the library and about the university.

To begin with, the mere fact of a new building suggests a healthy growth of university life. The university had outgrown the old building. Excellent as it had once been it was no longer fitted to the functions expected of it. This is the test of a building—its fitness for its functions.

The president's house at Princeton University is called "Prospect."

While Woodrow Wilson was professor at Princeton he built on Library Place a substantial, suitable house for a professor, embodying his own ideas and suited to the functions of a leading professor. When he was chosen president of the university, he thereby of course came in for the president's house as well as the presidency, and his friend Laurence Hutton wrote him a letter of congratulation, addressing it to "Woodrow Wilson, Library Place, with a better house in Prospect."

Prospect was not a better house for a professor on a modest salary, but it was better suited to the function of a university president—especially since the function of paying the rent was not a presidential function.

If Hutton had been as good a prophet as he was a wit, he might have added to his address "and a still better house, beyond Prospect, in the White House."

It is alleged that Wilson was himself in fact a better prophet than Hutton and had already plainly predicted the White House for himself.

However it may have been about prophecy, Wilson in these golden days of Princeton was second to none as a wit. Speaking of better houses for ampler functions recalls one of his mots.

Just before the old Princeton Inn was built Professor Shields, scholar and gentleman, moved from his house on Mercer Street to a better house called Morven, once the house of Richard Stockton, signer of the Declaration of Independence.

A license was needed for the inn. It was in the interest of public morals, but neigh-

[1] Dedicatory address at the dedication of the University Library, Lehigh University, April 25, 1930.

bors were few and all their signatures were needed on the petition, so they all went on—Grover Cleveland, Dr. Shields and the rest.

The New York *Voice*, a prohibition organ, got hold of this for front page news and raised a tempest in a teapot.

When this tempest was at its height, President Wilson was strolling by Morven with a colleague one day. Colleague, jerking his thumb over his shoulder in the direction of the house, remarked, "The house of two signers." "Yes," said Wilson, "one for liberty and one for license."

Whether or not the scintillating mind of Woodrow Wilson found yet another house, better fitted for its functioning, when the earthly house of this tabernacle was dissolved and its energies released for freer action in another environment is a question of fact. No doubt if any one has done so, he did. It is alleged that all honest scientists deny him or any one immortality except in his achievements, but millions of honest scientists in the past have held the hypothesis of a better house for larger functions after kind death has dissolved the present cramped and ineffective body.

Wilson himself has settled the question of fact for himself by the experimental method. Mr. Barnes and the rest of us will settle it in the same way soon. Meantime, those who hold the hypothesis of a better house for larger functions hereafter can hardly find a more precise mechanical model for their theory than the release of energies caused by the replacing of a crowded, inadequate and inconvenient library building by a new building adequate to its functions—all the better if the building has, as this one has, just enough of the old to suggest a physical continuity between old and new.

Returning again to the matter of this new Lehigh library building and its obvious fitness for the functions of a modern university library: what is true as to the general evidence of university vitality given by a new building is still more true of the detail of the newer functions provided for and the modernized provisions for the old.

No attempt will be made to review here, or at any point in this paper, all the ingenious details of building adaptations which add to the efficiency of this building.

Many of these will be casually introduced in what will be said of the functions of the library in the university. A few selected activities will be enlarged on, following the building provisions made for them, as a text.

Meantime a professional librarian only needs a glance at the building as it stands to realize that Lehigh University interprets the duty of a library in the widest sense of modern experience. He sees also that each building provision is not only evidence that Lehigh is alive but is a concrete means of making it even more alive.

Before proceeding to a survey of the selected activities which suggest the share which the library has in that cooperative undertaking which is the university and in interlibrary cooperation, it will be necessary to try to give some brief sketch of what this whole matter is all about—what the university is and is driving at, what sort of an entity from the standpoint of a library philosophy a university student is, what cooperation is where intellectual matters are involved.

Turning now to the question of what it is all about anyway—this matter of university education and the library share in the university task.

There are endless definitions of the object of university education, most of them probably right from some point of view. From the modern point of view, which finds it most useful to think of all realities in terms of energy, there is one simple final analysis. The object of the university is to make students more alive. The university is a cooperative undertaking whose object is, by

any or all means, to make students more alive.

This is a very obvious matter. Philosophers of all countries, times and colors have repeated in every imaginable way the fact that knowledge is life. More life is thus more knowledge. The same philosophers reiterate hardly less often that knowledge is power. Therefore life is energy. Human personal life, whether it is a mere biochemical process or not, is a matter of knowledge. As a Hindu philosopher says, "We are our thoughts; we are built up out of our thoughts." We are not only "thinking things" but we are recording things outwardly and inwardly. Our thoughts stay with us in the form of knowledge. They are built up somewhere in us as organized collection of records or memory.

President Vincent is fond of speaking of libraries as the memory of the race—a vivid contribution to the machinery of bibliothecal thought. This is not so much a figure as a fact. To say that a person is a living library is also more fact than figure. He is essentially an organic functioning collection of verbal records. In quantity, substance, form, man is the total of his organized thoughts—recorded—a functioning library. His body is the building of the living library. This is a primary fact as to human nature.

Man is, in other words, a verbal complex, an incarnate word. The spiritual life is the verbal life. "The words that I have spoken unto you, are spirit and are life." Soma and amrita, haoma, nektar and ambrosia, Odin's mead, the water of life, are all "words" or knowledge—the food and drink which cleanse, build up and give energy to gods and men. Somehow personal energy goes with knowledge; it can be increased by knowledge. Whether the energy of personal life is more than the functioning of the biochemical organism which houses these living records is not to the present point. So far as we know, biochemical energy is as good as any other if it does the business, but if spiritual energy is different it does not matter. It is real energy and that does matter. It can be increased and that matters. What the student tries to do is to become more alive. That is what the university tries to help in, what the library takes its share in.

What the university needs to realize and what the library must understand is simply that man's spiritual or intellectual or personal life is a verbal life, an organic body of "knowledge" functioning. It is increased by verbal communication. The word or concept is a quantum of spiritual energy.

It is not necessary to go into detail as to this foundation stone of bibliological science. The idea is common to all philosophies.

The idea is, however, subject to one very serious qualification. Any quantum of knowledge, in order to make alive or to enlarge personality and increase the supply of intellectual energy, must be true. It is vain to know the things that are not so. Even a little error tends to destruction. Tolerated error leads to illusion, delusion, dissipation of energy—insanity, degeneration, disintegration of personality—destruction. There is no salvation for the human spirit but a rigid adhesion to fact.

It is this circumstance which is the key to modern science and to modern university method. The quintessence of science is its unceasing insistence on fact, the whole fact and nothing but the fact. Barrows Dunham, with mild derision, calls this devotion to fact, worship. The god of science is, he says, fact. And perhaps it is, in the sense of the older science which claims a like devotion to truth and does not hesitate to say that truth is God. The word "fact" does not occur in the King James Bible, but in it the word is God and the truth is God. The man who sticks

tight to fact will not go wrong and can not escape salvation. The man who does not is lost from the beginning. In one case he becomes more and more alive; in the other he is on the descent to Avernus.

It has already been said that the university is a cooperative undertaking whose object is to help students to become more alive.

Cooperation is simply team-work.

Various factors enter into this university team-work: students, oral teachers, libraries, laboratories and museums, trustees, etc.

Students are the main factor. The will to cooperate on their part is the chief thing. The rest is easy. If a man wants an education, wants to get more alive, wants to get hold of the kind of knowledge which is life and makes more alive, he will get it, in spite even of teachers and libraries, if necessary. All education is self-education. There is no royal road to learning. Teachers and librarian may lead an unwilling student to the fountain of knowledge or the river of life, but they can not make him drink. If on the other hand he is keen to "drink the Soma bright and enter into light and all the gods have known" he needs only to be led to the sources, and in this teachers and librarians cooperate.

Oral teachers and librarians alike teach by verbal communication. As between the two, it may be confessed by a librarian that, as a method of verbal communication, oral teaching is perhaps more vital than library teaching. With all the machinery of libraries it remains true that the ideal university is Mark Hopkins on one end of a log, a student on the other. The word reinforced by voice is more vital; it sinks more deeply into the intellectual life, stirs it more energetically. The living personality is the best communicator of intellectual life to others.

On the other hand, however, it may be said that to bring first-class personality, say Dante, into touch with a student by means of books is a greater aid than anything that a second-class person can give by oral teaching.

It is not much to the point, however, to compare relative contributions. The matter is one of cooperation. Each contributes all that he can to the work of the other, whether student, oral teacher or librarian. Teacher aids student and librarian, student helps librarian and teacher, librarian cooperates with teacher and student.

We are concerned to-day with what the library contributes to this common task of the university and still more particularly with the modern development of library science by which all libraries of learning and teaching cooperate for the benefit of the operations of each.

First a word or two about the library itself—what it is and what, in a general way, it attempts.

Broadly speaking, the library is a collection of books kept for use. It consists of three cooperating factors: books, building, personnel. It is a true trinity. Lacking any one of these factors, the library is not a library. It does not exist. The personnel factor includes owners or trustees, keepers or staff, and users. Keepers are divided into keepers of building and keepers of books—building staff and book staff or librarians.

Use is the emphatic word in the definition. Books are chosen for use, got for use, preserved for use, prepared for use, served for use and used. All the innumerable processes and routines of getting recommendations from professors and students—purchasing, new, second hand or at auction, soliciting gifts, keeping inventories, marking against loss, binding, treasure room care, classification, author, subject and shelf cataloguing, shelf marking, shelving, fetching, charging, helping to find and use, providing desks and reference aids—all these operations are carried on under the great slogan of use.

There are many kinds of use, but the

main kinds are research and education—the discovery of new knowledge and the spreading of this or turning it into common knowledge. The great radical needs and functions of a university library follow these paths. The chief modern developments affecting books, building and personnel in a large way grow out of the modern development of research work.

There are many kinds of books too, the broadest distinction being between the books which are loaned out and read through and those used in the building for so-called reference use.

Minor kinds of books are volumes, periodicals, newspapers, public records, pamphlets, rare books, documents, manuscripts, cuneiform tablets, coins, inscriptions, etc.

The prime function of the library is to connect a user with a book that he wants to use or ought to want to use. Its second function is to do it promptly.

The operation of connecting all readers promptly with all needed books involves many operations of choosing for use, getting for use, preserving for use, preparing for use, serving for use and using.

All these different kinds of personnel, kinds of use, kinds of books and kinds of operation call for different building provision, and every favorable variety of building provision helps to certainty and promptness of operation. It to some degree either eliminates waste or increases efficiency.

Passing now to the select details of matters in which the library cooperates we may consider:

1. Two matters of direct cooperation with the student
   a. The browsing room
   b. Reference collections
2. Matters of cooperation with the oral teachers in their work with students
   a. Undergraduate work. Assigned reading shelves, etc.
   b. Graduate work. Seminar rooms
3. Cooperation with oral teachers
   a. In their task of making themselves more alive
   b. In their task of increasing human knowledge—special study rooms
4. Cooperation with other libraries
   a. Stack: number of books needed
   b. Treasure room: unusual books
   c. Public catalogue: cooperative lending and borrowing, cooperative cataloguing and classification, cooperative purchase, cooperative information service, photostat, etc.

A very modern and very vital method of direct first aid to the student is the browsing room. It is essentially a selection of the so-called "books of power," or of reading literature. It is closely connected with the idea of classics, ancient and modern. These are the books which human experience has shown to give the greatest stimulus or increment of life per volume or, if you like, per word, read. In general these are the books of poetry, drama, fiction—the books which deal directly with personal experience—humane and superhumane literature. They pass into the literature of history, literature, art and the subhuman science in the form of essays. Now and then there are volumes in these fields which fall clearly into this class, *e. g.*, Darwin. In the old library days browsing was encouraged by librarians and much help given also by shelves of recommended books, but the modern browsing room tempts the student, saves him time and adds much to what he can and does get.

The public reference room of a modern classified library performs a function for the literature of information similar to that performed by the browsing room for the literature of power in culling out the best from the wilderness of stack books. It is a vast saving of time in the task of getting systematic information. A classified selection of best reference books in all classes of literature is the best microcosm in ex-

istence. It is a synopsis of the great universe—the macrocosm. The stack is a more detailed model of reality, but the reference room is a better one. It is the method of quick information about anything or all things. At the same time it is an incomparable browsing room for the literature of information.

And it is far more than this. In these days when philosophy is again waking up to the crucial value in education of the seeing-things-as-a-whole habit of mind, the value of this collection emerges as second to nothing among university tools. Even to run over often the shelf labels of the classes, reviewing thus the whole scope of the order of the sciences, is a key method of self-education. To read through the titles is to review all that one knows of the universe. To browse systematically through the collection, looking up here and there at points which suggest interest, is perhaps the most useful method that there is, after the reading of the greatest books of poetry, drama and fiction, for making one's self more alive—and it has the advantage of systematizing the new life.

For a long time now the carnival of specializing has been chopping up knowledge into the proverbial bag of short strings. Almost the only point in the university where the organic unity of human knowledge has been held up to view is the classified book collection. Now that the pendulum is swinging back, the university has a tool at hand. In the epitome formed by the reference collection it has a text-book of the first order.

Turning now from the direct cooperation of library and students, to indirect aid by the library through cooperation with the oral teachers in their task, we have, for the undergraduate work, the special shelf provision for assigned and recommended reading in the various courses, the select collections of recent accessions and of lending books of the browsing room type and other like matters. Most of this undergraduate work is of a long established type, but library aid to the graduate teaching of the oral professors is of a new type, developed by the provision of special seminar rooms for their work of instruction in the method of research. This seminar work calls for a small number of special reference books and a varying quantity of books of sources and special literature on the special topic of the seminar, which changes from time to time with the seminar. The incredible growth, especially since the war, in university studies leading to the Ph.D. has made this seminar work of training in the method of research one of the most active fields of library cooperation. One notes that Lehigh provides in this new building no less than eleven seminar rooms.

The third aspect of library cooperation in a university is typically associated with the special study rooms so liberally supplied in this new building. It is cooperation with the teachers in their work of making themselves more alive, and it involves two methods and aspects: first, the usual methods of the undergraduate—browsing and systematic information; and second, and above all, the effort to contribute something new to the sum of human knowledge.

If students are to be made more alive, by so much the more must the teachers become more alive. As with students so with teachers this making more alive begins at home. It is a matter of self-education, but it is one in which the library can give a lot of help at the most efficient point, which is the professors' research work.

The universities have of late years fully waked up to the vital character of this element in their task. They encourage research, recognize good research results as ground of choice and advancement, are liberal with sabbatical years and special leaves, value medals and special memberships in learned societies, notice results on undergraduates and graduate teaching.

Fun is sometimes poked at the univer-

sities over all this which is looked at as a matter of taking prestige seriously and a solemn valuing of empty honors. There is, of course, a lot of humbug about the matter. Pedantry gone to seed in this way is as foolish as all other pedantry. At bottom, however, it is not a matter of self-glorification either of university or professor but a matter of life and death—of making the professors more alive.

The cooperation which the library gives to the professor in his task of contributing to learning begins with the special cubicles or study rooms with doors, where the worker can gather his books and materials and leave them in the certainty that they will not be disturbed. This is of great value to the working professor who must snatch the time for his work when he can and who is able to utilize many small bits here and there if he does not have to put his work away each time.

Another very large way in which the library helps is in getting books needed for a specific piece of research. In the old days the library got as many of the best books for general use in its general collection as its funds would allow. The research worker used what he had and traveled to other libraries for the rest. Now, if a man is engaged on a serious piece of work every effort is made to get for him all material which can be purchased or borrowed or (within limits) photostated, and very serious effort is made at least to locate other material so that the time and money expense of travel may be reduced to lowest terms.

In passing to the matter of practical cooperation with other libraries of learning for the benefit of the clients of each, it will be worth while to give a little more attention to the nature of cooperation than has been given in defining it as team-work—mutual service, joint or specialized.

The spirit of cooperation is the will to join with others in common action for a common good. In its large sense it is best realized as a whole nation acting as one man, for all matters of common good or for the commonwealth.

In its narrowest sense it is any two persons acting as one in order to produce more goods than both could produce if acting as two. The action may be joint or reciprocal. Two men can lift a stone that one can not stir. Two men specializing can produce as many coats and shoes as both could produce, making both, and with a surplus.

In short, team-work gets more results; it may be very far more results than individual work.

The necessary basis for cooperation is likemindedness. The ideas must be in exact agreement before they are put into action or results fail. Architects' plans and builders' specifications must agree if building is to be right and stand.

Cooperation is thus group action based on the likemindedness of that group. The agreements of society consist of a vast number of contracts or formal agreements of all shades together with a vaster number of subconscious agreements of ideas, customs, habits, conventions, castes, etc. Many of the usages of polite society are as fixed as the laws of the Medes and Persians. All these agreements are produced, as John Dewey would say, by communication, or transmission.

This likemindedness or agreement as to something to be done together for the common good is the bond of society. Society is made up of myriads of groups, each united by likemindedness as to a common good to be produced by common effort. Society is the sum of these, but it is something more than a total, it is a cooperating sum—a sum in action, for the common welfare. It is a something which arises from the interaction of all, and is impressed on each individual, so that the likemindedness is existing in each individual and manifests

itself as automatic reaction to a given stimulus.

The recognition of this agreement or likemindedness is the consciousness of kind or feeling of kindness, and all this so far as it goes is the spirit of liking or kindness. This grows inevitably with the multiplication of small agreements of liking and faster in large agreements. Secretary Stimson hinted at something of this sort recently in speaking of the naval agreement. At any event it is a unit fact in human nature and human society that every agreement large or small tends to a larger likemindedness or kindness. The greater the number of likings and kindnesses, large or small, the greater the solidarity of nations. In short, the greater the number of things that nations can agree to act in together, the greater their disposition to "act as one" in all matters of common concern.

The development of modern library cooperation has been the outgrowth of the movement for intellectual cooperation in the production of new knowledge for the promotion of which there were already before the war no less than four hundred international societies.

The discovery of new knowledge is a very highly cooperative matter. It proceeds by an invariable method of getting together all the records of research on a given thesis to date, uniting these in a single concept or definition or text-book, multiplying this in many minds by education and producing useful variations of the idea in as many as possible of the minds which now have each in itself by communication all that was known of the matter before. As many minds make fresh contribution to the standard idea these are again gathered, integrated, multiplied and develop useful variations to be gathered. All intellectual progress on any topic, say light or the electron, follows the same path.

The task of the library is gathering the records. Every research student wishes to have before him every useful variation of the idea which has been published. It is a humble but colossal service, and basic. It is indispensable to scientific progress.

Integrating is the task of learning; multiplying the task of education; producing useful variations the task of research, but all rest on the indispensable task of the gathering and orderly display of the results of previous research as the ground for further progress.

The colossal nature of this task has been referred to. When a student has gathered the titles that he needs to consult the task is often only begun. He must find concrete copies to use. It has been estimated that any one of ten million titles may be called for any day at one of our greatest research libraries. As no such library, not even the British Museum or the Library of Congress, has one fourth of this number, the only solution is obviously cooperation.

This is the problem which has given rise to the most extensive and distinctive operations in modern library cooperation, but it is far from being the only aspect of the practical cooperation work of the libraries to-day.

A few suggestive illustrations of the interlibrary matters in which the modern university is engaged may well follow, as in earlier matters of this paper, the line of the building provisions of this new building. Although none of them call for much special building space, except for a modest amount in the public catalogues and perhaps more in the information department, they have very important relations to the stack problem and the treasure room.

This new building has a very handsome stack provision for five hundred thousand volumes, adequate for some time to come, but it is not too much to say that it would not be adequate without interlibrary lending. The professors in this university may not call in ten years for ten thousand books

for special research which the library does not have, but no one can tell what those books will be. They are ten thousand out of a haystack of ten million, and no one knows which they are. The consequence is that libraries used to try to meet all possible needs and build up larger and less select collections. Now the tendency is not only to restrict collection but to weed out inactive material. It is believed that there is a very large development in this field to be expected since there are large quantities of duplicate books being stored by the libraries, at the cost of a dollar a volume, whose actual use would be served by one tenth of the number properly distributed and served by cooperative lending at a cost of 1 per cent. of the present interest on storage.

The problem of quantity of books in a library has ceased to be a local and become an interlibrary problem.

The treasure room in this library is deservedly adequate. Lehigh has long enjoyed a very high distinction in the matter of unusual books. It was fitting that right building provision should be made. The fact that it has been made gives a very pointed text for one of the main factors in solving by cooperation the big problem of research books.

It is not too fanciful to speak of this treasure room as the interlibrary section of this library. It contains the books of this library which other libraries do not have. It may well be that they can not be loaned to other libraries, but that does not matter. They can be freely used here. If a research student can not borrow, he will visit if he can locate a copy to visit. This is the beginning, middle and end of the great problem of research books—to locate some copy somewhere of all research books.

There are two ways by which this is done: first, by locating group or special collections of unusual books by catalogues of such collections, and second, by locating individual copies by union catalogues or finding lists, printed or card. By including the titles of the treasure room in the union catalogue of the Library of Congress, Lehigh does its share and a noble share in the cooperative work.

Those who are interested in the details of these matters will find plenty of printed literature on the subject, and your attention need not be detained farther on these very technical matters than to mention a small group which clusters around the public catalogue.

This catalogue, in its ingenious location, is one of the most obviously efficient of the building provisions. It includes, besides the card catalogue of this library, sundry printed catalogues of other libraries, especially union catalogues, of which the American Library Association Union List of Serials is chief. This contains a catalogue of some seventy-five thousand periodicals and gives one or more locations where each may be found. If a user does not find a periodical that he needs in the card catalogue, the librarian hunts it up here and borrows for him. If he does not find it in the American Library Association Catalog, he writes perhaps to the Library of Congress, whose Union Catalog of Periodicals in the District of Columbia contains all sorts of minor and unusual titles to the number of two or three hundred thousand or more.

A still more extensive aid available by correspondence is the Union Catalog of volume literature of the Library of Congress, which contains six million locations of four and one half million works.

This Union Catalog promises also to serve as a base for an almost equally important effort in cooperation by purchase. Titles offered for sale and not found by this catalogue to be in America will be purchased by the libraries which specialize in such books. A list of specialized collections of books in American libraries has been prepared as a basis for this work.

The card catalogue itself contains many

Library of Congress printed cards. This is the greatest accomplishment of library cooperation to date. By the simple publishing and sale of its one million titles of printed cards, the Library of Congress has simplified and made more economical the cataloguing of more than four thousand libraries which use them.

A new step in cooperation which promises considerable economies and efficiencies is being matured by which the classification numbers of the decimal classification system shall also be printed on these cards.

The cooperative information service of this library is doubtless chiefly confined to information as to books which may be borrowed or loaned, but it has one very important contribution in a matter happily becoming more and more usual—its admirable collection relating to Lehigh graduates.

This exhaustive specialized gathering of local literature is one of the most fruitful of contributions to cooperative library science.

Not many libraries can afford to go so deeply into this matter as to furnish typed or photostat copies of material, but they are often able to do something through the cooperation of libraries which do have photostats and lending to them the documents of which copies are needed.

In concluding this survey of the cooperative activities for which this admirably equipped building permits free functioning without waste of energy, one may venture to refer again to Woodrow Wilson and his baffled ideals for world cooperation. If there were time I would like to review the scene in 1902 when Grover Cleveland, Woodrow Wilson and John L. Cadwallader, doing their cooperative duty as trustees and aided by the expert counsel of John S. Billings, spent a long and serious afternoon studying the problems of a university library and chiefly the problem of encouraging cooperative cataloguing by the use of printed cards. It was an impressive spectacle to a librarian to see an ex-president of the United States taking as earnest a responsibility in a matter of technical library cooperation as he did in his public duties—and his unsparing pains in these is a part of history.

It may at least be said, however, that Wilson displayed in this little matter of library cooperation, now growing into a matter of world cooperation through recent international congresses and associations, the same swiftness of perception as to cooperative values that he showed in bigger things in later days.

Whether the form of his vision of a world cooperation through the League of Nations will endure or will be replaced by a new building better fitted for the actual functions that it must perform is on the knees of the gods.

What is fairly certain to an unprejudiced observer, however, is that this noble effort at world cooperation is not in vain. It holds up an objective. It contributes modest results. It encourages men everywhere to cooperate in everything which is for the public good, secure in the conviction that every such effort is contributing some tiny bit to the aggregate of agreements, likemindedness, liking and kindness of the world.

SOME VALUES WORTH PRESERVING

By Dr. ROBERT LINCOLN KELLY

EXECUTIVE SECRETARY OF THE ASSOCIATION OF AMERICAN COLLEGES, FORMERLY PRESIDENT OF EARLHAM COLLEGE (1901–17)

THE American college has discovered and adopted certain household gods which are presiding over its destiny. More recently beauty, freedom, intelligence, religion and philosophy have increasingly shed their benign influence upon college affairs.

When the academic atmosphere becomes sluggish in certain pockets, even well-nigh to the point of embalmment, these magic ingredients liven it up and new currents set in.

BEAUTY

When the late President William Rainey Harper, of the University of Chicago, discussed "The Prospects of the Small College" at the beginning of this century, that university was entering upon an object lesson, to be seen of all men, of the power of harmony and balance in architectural and landscape effects. Stanford had already done this, and years before, the University of Virginia. How many other such consistent object lessons were there then? To-day colleges may be counted by the hundred, not all of which have attained architectural beauty, but all of which are earnestly devoted to attaining it. Many of them are conspicuously attaining it. College construction has become a part of the movement toward American architectural supremacy, and instruction in the fine arts, including music, is rapidly being introduced into our colleges. This is a value which the American people will preserve.

FREEDOM

President Harper deplored the fact that there was a deadening uniformity among colleges. He is reputed to have said he did not care to undertake the building of just another college at Chicago. He named a few institutions that had individuality. To-day almost every American college has an individuality, a personality of its own. Traditions have sometimes been abandoned and the spirit of adventure has led the executives and administrators to restudy, to modification, even to bold experimentation. Meantime the college teacher has raised his voice in demanding academic freedom and has largely achieved it. Indeed a formula for academic freedom and tenure, propounded by the Association of American Colleges, has been approved in principle by both the executives and the teachers. The number of cases arising in this field for adjudication is very small. And the virus of freedom has percolated into the circulatory systems of the students. No longer much need here for other Patrick Henrys. One might say that the student revolt is revolting, but he must hasten to add that the results have been generally most agreeable and reassuring. The executives and faculties and students have attained the new freedom—or say they have, which, as Galsworthy suggests, is perhaps not quite the same thing. It is a value worth preserving.

INTELLIGENCE

In an increasing number of colleges the question of whether students should study is being answered in the affirmative. Many colleges are devoted to a stubborn effort to discover and recognize student aptitudes and to make the conditions favorable for their development. The leading colleges of America have banded themselves together within the last two years in the effort to place a premium upon the deepening and broadening of the minds of their own members—both students and faculty. They are not assuming that students must be made to study—they recognize that if some students are underlings some of the fault may lie with the teachers as well as with the students themselves. If students should study, so also should teachers teach. It is a value worth preserving.

RELIGION

President Harper was impressed thirty years ago with the decline of the sectarian spirit which, however, he did not confound with the denominational spirit. He did protest against the cry from "denomina-

tional bosses that the denominational colleges must be supported, their halls must be filled by students from the families of those belonging to the denomination, and the denominational ideas must be propagated," and he predicted that with "the gradual weakening of this narrow religious spirit"—of the bosses, not of the rank and file of the denomination—"a great source of power and strength which has hitherto lent support to the building up of the small college will be removed."

As a matter of fact, this alleged cry of the bosses has not much affected the denominational colleges. The multiplication of the agencies and influences of religion and religious education in our colleges during the last few decades is a remarkable phenomenon which can not be described here. Not only have the colleges closely affiliated with the churches greatly improved their methods of teaching religion, but some of the colleges the least sectarian, and even the least "denominational" as that term is usually understood, have become more religious and have attracted more students from all denominations.

The churches to-day whose members are assisting denominational colleges are striving to render a service to society in general, not simply to their own membership, and that their efforts are appreciated is evidenced both by the increasing endowments and by the increasing number of applicants for admission. The churches are being taught that first of all the colleges must be worthy of support. No college has a right to ask for support simply because it is a college or a denominational college. The college must demonstrate quality or retire from business.

PHILOSOPHY

We are now on the threshold of the greatest era of thought since the days of Darwin. Any one with a spark of speculative appreciation within his soul must be thrilled by the prospect ahead. Our thinkers not only stand on the shoulders of all previous thinkers, but they stand on the more or less solid basis of scientific fact. Our physicists of the first order are metaphysicians, our metaphysicians use the scientific method, our astronomers and theologians are vying with each other in attempts to comprehend the infinite. Our students of nature are recognizing the existence of human nature. Science and philosophy are apparently entering on a long life of wedded bliss. Following our era of exploration and discovery we are entering upon a period of interpretation and generalization. Mechanical interpretations are yielding to dynamic interpretations of the universe and of life. We are witnessing a cooperative revelation.

Now the leaders in this transformation in thought are college men, men with liberal minds, men with power of cooperative thinking and working, men who represent culture at its best, men who can be produced only by the spirit of learning found in our liberal colleges. As well ask President Hoover to close up his new school at the head-waters of the Rapidan as to try to dam up the expectancy of these men and of their students and followers in the realm of pure scholarship, for the boy of possum fame and these constructive interpreters of life are animated by the same primitive impulse—the impulse to know and understand for the sake of knowing and understanding.

EDUCATIONAL EVENTS

DEVELOPMENTS IN SWEDEN

IN pursuance of a policy which it has been carrying out for some time, the British Board of Education has issued a report on "Recent Educational Developments in Sweden," as seen through the eyes of one of the board's inspec-

tors, Mr. P. B. Coles. The last report on this subject appeared in 1904. According to the abstract of the present report in the *Times Educational Supplement*, Sweden has endeavored, by two successive pieces of legislation, to bring her educational system more into keeping with the needs of a nation which in the last 30 years has become rapidly industrialized, and what she has done may have useful lessons to teach in Great Britain. The Parliamentary Act of 1918, by setting up various types of "Practical Schools for the Adolescent" (in particular the whole-time higher primary schools), and by making part or whole time attendance at one of these compulsory between the ages of 13 and 15, has provided post-primary education for those unable to profit by secondary education. In the field of secondary education the legislation of 1927, by the partial adoption of the principle of the "single educational ladder" in the state schools, and by reorganization of entrance and leaving examinations and of curricula, has sought to emphasize more than formerly the development of character and initiative, and to provide equal educational opportunity for all, irrespective of economic status, for girls as well as for boys, and in the country as well as in the towns.

The main changes in the secondary school system have been the throwing open to girls of the greater number of the state secondary schools (hitherto reserved to boys), and the taking over by the state of 54 secondary schools set up since 1904, with government aid, by the municipalities. There are at present 135 state secondary schools, as against 77 formerly. Swedish secondary education now normally consists of two parts, the "realskola" course leading to the "realexamen" at about the age of 17, and the "gymnasium" course, leading to the "studentexamen" at about the age of 20. The "realexamen" is a school-leaving certificate; the "studentexamen" qualifies for admission to the university. Under the present system, a primary school ("Folkskola") pupil, after completing the six-years' primary school course (*i.e.*, about the age of 13) may transfer to a state secondary school. This may be either a higher public secondary school, with both "gymnasium" and "realskola" stages, or a "realskola" (or modern school), which has no "gymnasium." In some localities (generally the more thickly populated) transfer may take place at the end of the fourth year of the primary course (*i.e.*, at about age 11), and here a five-year as well as a four-year "realskola" course is provided, either in the same or in a different school.

REPORT OF THE COMMISSIONER OF INDIAN AFFAIRS

MR. CHARLES J. RHOADS, of Philadelphia, who was appointed in April of last year commissioner of the U. S. Office of Indian Affairs, has presented to President Hoover a report concerning the reorganization of the bureau and recommendations concerning its future conduct. In regard to education he writes:

> The program of Indian education and the courses of study offered in our Indian schools are being modified and expanded so as to place increasingly greater emphasis on education of a practical and vocational character so that upon completion of the prescribed courses the Indian boy or girl may be fitted to take his or her place in the life of the nation, whether as an industrial worker, an agriculturist, a teacher, clerk, or in some other of the innumerable ways in which American citizens earn their living.
>
> To assist in the reorganization of the Indian school service there has been appointed an assistant director of education, who was at one time dean of women at the University of Montana, and from 1921 to 1927 was associated with the employment service of the Department of Labor.
>
> A position of supervisor of trade and industrial training has been established, the appointee being a man who is peculiarly fitted for the development of the trade and industrial courses in the Indian schools. An examination has been announced by the Civil Service Commission for the position of director of education in the Indian service to fill the vacancy caused by the transfer of the former director to the superintendency at the Haskell Institute, Lawrence, Kansas. Haskell is the best known and one of the largest Indian schools, and under his direction and in line with the new policy of Indian education, we hope to develop it into a full junior college in which special vocational training will be given with a view of training students for real leadership among their people.
>
> A supervisor of elementary education has been appointed, and also a number of demonstration teachers to visit the schools, observe conditions and suggest improvements in teaching and pro-

cedure. Increased emphasis is also being placed on home economic instruction for Indian girls.

Mr. Rhoads summarizes his report as follows:

We propose to give the Indian a practical education, along vocational lines whenever possible, to make better provisions for his medical needs, to provide for the indigent, to assist him in finding and keeping a job, to increase the productivity of his land and to give him the advantages of modern organization and business methods to the end that we may hasten the day when he will be able to assume entire responsibility for caring for himself and his problems just as does his white neighbor. While this may involve for the time being an expansion of our activities, with increased appropriations and additional personnel, in the end it will prove true economy.

EXPENDITURES FOR SCHOOL BUILDINGS

AN extensive survey of public construction conducted under the direction of the National Bureau of Economic Research for the Committee on Recent Economic Changes of the President's Conference on Unemployment has been made by Dr. Leo Wolman, who finds that school buildings represent the largest single item in the total contracts for public works in a group of fourteen of our principal American cities, including New York, Chicago, Philadelphia, Boston, Detroit, Cleveland and St. Louis, during the decade ending December 31, 1928.

Dr. Wolman's survey has been published under the title "Planning and Control of Public Works," which also contains a report signed by the Committee on Recent Economic Changes. Fourteen cities were chosen as typical examples of what has been accomplished generally throughout the country in the construction of public works. The remaining cities for which figures are given are Albany, N. Y.; Buffalo, N. Y.; Indianapolis, Ind.; Newark, N. J.; New Haven, Conn.; Rochester, N. Y., and St. Paul, Minn. The information is based on statistics gathered by the F. W. Dodge Corporation.

School buildings maintained the lead in the average of the fourteen cities, in the face of very large expenditures in other directions which have been characteristic of the period, such as those for subway expansion in New York, and bridges, sewage, roadways, water supply and waterfront development in other large municipalities.

A total amount of $1,019,247,000 was expended in the decade in New York for public construction of which $285,195,000, or virtually 28 per cent., went for educational buildings.

The ten-year expenditure for educational buildings in Chicago was far ahead of that for any other item, reaching a total of $142,574,000 as against a total of $307,699,000 for all public works. In 1928 a total of $22,423,000 was spent for public and private educational buildings, more than half the total expenditure for public construction, which was $44,597,000.

Philadelphia's ten-year expenditures for educational buildings amounted to $72,107,000 or more than 28 per cent. of the total during the same period for public construction, which was $257,159,000.

Close to $34,000,000, actually $33,754,000, was expended in the period by Boston for educational buildings, as against $91,349,000 for all public works, or nearly 37 per cent.

In Detroit $63,069,200 was expended in the period for educational construction, which is more than 30 per cent. of the $208,124,000 which was spent for all public works.

The educational building item for the ten-year period in Cleveland was $45,504,500, which was more than 32 per cent. of the public works total of $140,521,000.

St. Louis expended $23,550,000 for educational buildings out of $87,067,000, the total for all public works construction, or more than 27 per cent.

Albany, N. Y., expended $6,636,000 for educational buildings, total public construction for the ten-year period amounting to $23,225,000. The proportion was about 28 per cent.

Buffalo, N. Y., expended $30,147,000 on educational construction, or more than 42 per cent. of the total expenditure for public works, which was $70,755,000.

Indianapolis expenditures for educational buildings, amounting to $16,212,000, were over 30 per cent. of the total public works figures, which were $53,814,000.

More than 27 per cent. of the total public works expenditures in Newark, New Jersey, were for educational buildings, the total for the latter item being $13,369,000, and $48,819,000 representing the total for public works construction.

Approximately 85 per cent. of the expenditures in New Haven, Connecticut, were for educational buildings. The school item was $27,368,200, the

total for public works during the period being $31,980,000.

Nearly 39 per cent. of the total in Rochester, N. Y., or $16,940,000 went for educational buildings, out of $43,820,000, expended for public works.

School building expenditures during the ten-year period in St. Paul, Minnesota, amounted to nearly 44 per cent. of the public works item, $8,485,000 having been expended for educational building construction out of $19,380,000.

THE RURAL SCHOOLS OF OKLAHOMA

RURAL school terms of six months and less will soon be eliminated in Oklahoma, according to an announcement made by the State Superintendent of Instruction, John S. Vaughan. Three years ago there were 538 schools in the state running on a basis of six and one half months and less, and now they number only 99.

Increased state aid to rural education accounts for the gradual lengthening of the school terms until now over 1,600 schools have nine-month terms, 193, eight and one half, and over 2,630 have eight-month terms.

Three years ago, before state aid to weak schools was inaugurated by the legislature, which set aside a portion of the gross production tax on oil, 40 schools out of every 1,000 had a six-month term. Last year, only five out of every 1,000 reported such short terms.

Not only have the poorest districts been able to increase their terms, but others which have not been able to hold the full nine-month term have also been able to increase.

By increasing the length of eight-month schools, the state last year added 6,075,000 days of educational opportunity for the children of Oklahoma over the opportunities of 1926.

The number of rural schools having nine-month terms last year was increased over three years ago from 782 to 1,273 or 63 per cent.

"Seven out of ten schools three years ago had at least eight months of school," according to Marshall Gregory, statistician of the department. "Last year, 9 out of 10 reported nine-month terms."

The average length of the school terms of the rural schools was 161 days, compared with 152 days in 1926. State aid in the amount of $1,500,000 was provided by the legislature in 1927. The 1929 legislature made supplemental appropriations of $250,000 for 1929–30 and 1930–31. The aid is apportioned to schools in districts that levy the maximum 15-mill tax and still do not have sufficient money on which to operate. Mr. Vaughan said that last year in no case was state aid in excess of $40 a child given.

NEW BRANCHES OF THE BOSTON PUBLIC LIBRARY

SKETCHES submitted by the Trustees of the Boston Public Library for two new branches, each to cost $100,000, have, according to the *Boston Evening Transcript*, been approved by Mayor Curley, as the first units of the comprehensive expansion program recommended by the mayor when he was a member of the examining committee of the library, two years ago. One branch will be erected near the Mission Church, Roxbury, and the other in Mattapan, near the present branch in Babson Street.

The library program calls for the building of two branches every year for ten years, in the expectation that these buildings will be adequate for the needs of Boston for at least a generation after the final construction. They will give Boston, in the opinion of the mayor, "the finest public library system in the world." Calling attention to the fact that Boston has one of the three great scholarly collections of books in the country, the other two being in the Congressional Library, Washington, and in New York, the mayor deplores the fact that the physical facilities of the Boston Public Library have not kept pace with the requirements of a great and growing city.

The mayor has urged the trustees, who have made a careful survey of the city's needs, to use all possible haste in the work on the first units and has been assured that they will be ready by winter. He issued a statement which in part follows:

> It is a particular source of gratification to me that the trustees followed my suggestion and selected Ralph Adams Cram, of Cram and Ferguson, as architect for the first of the two buildings designed, the one at Parker Hill. Mr. Cram is the foremost architect, everything considered, in the world. The Cathedral of St. John the Divine, in New York, will be but one of a series of noble monuments designed or supervised by him. This branch library is to be at the lower end of the municipal playground in Parker Hill. At the

other end is the large Mission Church. I believe that the whole neighborhood will feel in many ways the effects of this little gem of architecture designed personally by Mr. Cram. It is not too much to say that this sets a new standard for small library construction.

RADIO TALKS ON SCIENCE

THROUGH the courtesy of the Columbia Broadcasting System in placing a weekly fifteen-minute period at its disposal, Science Service has been presenting a radio talk by a prominent scientist every Friday afternoon at 3:45 P. M., Eastern Time. These began on March 28, with a talk by Dr. Warren S. Thompson, director of the Scripps Foundation for Research in Population Problems, on "Our Future Population." They are presented through a network of thirty to forty broadcasting stations covering the country from coast to coast.

Other speakers in the series to date have been: Dr. Paul Heyl, U. S. Bureau of Standards; Dean Edward W. Berry, the Johns Hopkins University; Dr. Charles G. Abbot, secretary, Smithsonian Institution; Dr. Harlan T. Stetson, director, Perkins Observatory, Ohio Wesleyan University; Dr. Ray Lyman Wilbur, president of Stanford University and Secretary of the Interior; Dr. Walter V. Bingham, director, Personnel Research Federation; Dr. John C. Merriam, president, Carnegie Institution of Washington; Sir William Bragg, director, Royal Institution of Great Britain; Dr. A. C. Lane, professor of geology, Tufts College; Dr. Fay-Cooper Cole, professor of anthropology, University of Chicago; Dr. Kirtley F. Mather, chairman, department of geology and geography, Harvard University; Dr. Frank E. Lutz, curator of entomology, American Museum of Natural History; Mr. H. N. Eaton, physicist, U. S. Bureau of Standards; Dr. Samuel A. Mitchell, director, Leander McCormick Observatory, University of Virginia; Dr. Knight Dunlap, professor of experimental psychology, the Johns Hopkins University; Dr. Charles P. Olivier, director of the Flower Observatory of the University of Pennsylvania, and Dr. W. J. Humphreys, professor of meteorological physics, U. S. Weather Bureau. All the talks are arranged by James Stokley, of the editorial staff of Science Service, under the general direction of Watson Davis.

For August and September the following program is announced:

August 15, Mr. H. N. Wheeler, U. S. Forest Service—"Fighting Forest Fires." August 22, Dr. John M. Arthur, Boyce Thompson Institute for Plant Research—"Light and Green Plants." August 29, Dr. William A. White, Superintendent, St. Elizabeth's Hospital—"Mental Hygiene." September 5, Mr. Charles L. Mitchell, principal meteorologist and district forecaster, U. S. Weather Bureau—"Tropical Hurricanes." September 12, Mr. Watson Davis, managing editor, Science Service, Inc.—"Industrial Revolutions." September 19, Dr. A. F. Blakeslee, assistant director, Station for Experimental Evolution of the Carnegie Institution of Washington—"Heredity and Environment." September 26, Dr. Paul G. Redington, chief Bureau of Biological Survey, U. S. Department of Agriculture—"Uncle Sam Watches his Animals."

LIVING COSTS OF FRATERNITIES AND SORORITIES AT OREGON STATE COLLEGE

REGULATION of housing and living costs of fraternities and sororities, and assistance from the administration to the organizations in these matters, has been a policy followed at Oregon State College at Corvallis for many years. It has been inclusive in scope and has resulted in keeping living costs low among the fifty-one organizations concerned. At the same time standards of living have been kept high.

The Greek letter organizations themselves have a Cooperative Managers Association, which since 1920 has done all the major buying for the houses at a substantial saving. Yearly sales exceed $200,000 with an operating cost of less than eight per cent.

A faculty housing committee is a regular part of the administration organization and exercises control over all property rentals or purchases. In case of new buildings, no group is allowed to start construction until a third of the cost is available in cash. Total cost is definitely limited, plans must be approved by the committee and competitive bids are required. The result has been that substantial houses have been built with none exceeding $45,000 in cost.

Regulation of living costs is handled for the men through this housing committee which fixes a maximum for all organizations and for the

women through a financial adviser who is a member of the home-economics staff. For the women a uniform system of bookkeeping has been established and a uniform board and room-rate has been evolved. Only one increase in this figure has been made in six years, serious financial difficulties have been avoided and the standard of living has been raised with the costs far below the average of similar institutions throughout the United States.

The faculty adviser in charge of this service at Oregon State College undertook it after making an investigation of housing situations through the country as a part of her graduate work at Teachers College, Columbia University. The survey brought replies from 82.9 per cent. of the institutions having Greek-letter organizations.

That regulation or supervision of these matters is the exception was shown by the study. The following percentages of institutions had supervision in the indicated phases:

Location of house	55
Suitability	49
Fire protection	48
Rental charges	27
Length of lease	27
Architects plans	30

ADULT EDUCATION AT THE UNIVERSITY OF CALIFORNIA

A SCHOOL center where nearly 100 adults are living under the same roof and attempting to further their knowledge by the interchange of ideas is an experiment being conducted at the University of California Summer Session.

The adult school, sponsored by the State Department of Education and the University of California, is under the direction of Dr. Harry Allen Overstreet, head of the department of philosophy of the College of the City of New York, and is carrying out the maxim that "the object of education is not to teach the tricks of earning a living but to learn how to learn living."

In order to offer special training to leaders, teachers and administrators in adult education, several courses in the general subject of adult education are being held in conjunction with the school. These include, "Controversial Problems in Adult Education," by Mr. Lyman Bryson, executive director of the California Association for Adult Education; "Public Opinion and Adult Education" by Dr. Harry Overstreet, and "Aesthetics and Adult Education" by Professor H. P. Eames.

As a result of this summer's discussion many experiments in adult education will be undertaken throughout the state by the evening school teachers who are now in attendance, according to Miss Edna Stangland, chief of the State Division of Adult Education. Attendance figures now show that there are more adult pupils in California in the evening schools than there are in the day high schools.

Nearly 40,000 adults, throughout California, sought to further their education during the past year through enrolment in classes given by the Extension Division for the fiscal year ending July 1, according to figures compiled by Mr. Boyd B. Rakestraw, assistant director of the division.

Of the total number, 39,196, the northern part of the state showed the largest number of enrolments with 21,453 adults registered for class instruction. This is a gain of more than 2,000 over the preceding year's figure. Enrolment in the southern part of the state reached 17,743.

EDUCATIONAL NOTES AND NEWS

AT the graduation ceremonies at the University of Edinburgh the degree of doctor of laws was conferred on Dr. A. Lawrence Lowell, president of Harvard University.

To commemorate the eightieth birthday of Dr. William H. Welch, professor of the history of medicine at the Johns Hopkins University, leader in medical education in the United States, a celebration was held in the Kitasato Institute for Infectious Diseases in Tokyo on April 8. The main address was made by Dr. Kitajima. Other speakers were Dr. Madsen, of Copenhagen; Professor Kofoid, of the University of California, and Dr. Kitasato.

A DINNER was recently given in London by the Physiological Society in honor of the

eightieth birthday of Sir Edward Sharpey-Schafer, professor of physiology at the University of Edinburgh.

A DINNER attended by two hundred citizens in honor of Dr. Willis A. Sutton, superintendent of the Atlanta public schools, who was recently elected president of the National Education Association, was recently given at East Lake Country Club.

PROFESSOR GEORGE R. NOYES, chairman of the Department of Slavic Languages at the University of California, has been awarded a medal by the Republic of Poland for service rendered in the field of literature.

A SCROLL of honor to be selected from designs submitted this fall by school children in all parts of the United States will be presented to Rear Admiral Richard Evelyn Byrd in honor of his election as "Thomas Jefferson Guest at Monticello." A gold medal will be awarded the successful competitor.

DR. RALPH BARTON PERRY, professor of philosophy at Harvard University, has accepted an invitation to join the faculty of the University of California Summer Session for 1931.

DR. HUGH P. BAKER, who served as the first dean of the New York State College of Forestry, Syracuse University, from 1912 to 1920, has been reelected to that office by the board of trustees. He succeeds the late Dean Franklin Moon. Dr. Baker left Syracuse University to accept a position as executive secretary of the American Paper and Pulp Association. Two years ago he became manager of the department of trade association service of the United States Chamber of Commerce. Before going to Syracuse the first time he was head of the departments of forestry of Pennsylvania State College and of the Iowa State College. Professor Nelson C. Brown, acting dean of the college since Dr. Moon's death, was given a vote of appreciation for his services by the trustees. He will remain at the college in an administrative capacity.

THE Western Air Express and the Richfield Oil Companies have established two chairs of aviation education in the University of Southern California. The Harris M. Hanshue chair of commercial aviation, endowed by the Western Air Express and named for its president, will be filled by Mr. Earl W. Hill, lecturer in the college of commerce and business administration, and the James A. Talbot chair of aeronautical engineering, endowed by the Richfield Oil Company, and named for the chairman of its board of directors, will be filled by Mr. James M. Shoemaker, an aeronautical engineer, newly appointed professor in the college of engineering. He will be assisted by Captain Douglas Keeney.

DR. JOHN T. FALTER, of the political science department of the University of Oklahoma, will succeed Professor Joseph P. Harris, who has resigned his position as an associate professor of political science at the University of Wisconsin. Professor Falter, who will teach courses on political parties, municipal government and constitutional law, is a graduate of the University of Pennsylvania. He has been a member of the Oklahoma faculty for the past three years.

MR. HAROLD M. TENNANT has been appointed registrar and head of the newly established publicity bureau at Willamette University, Salem, Oregon. Mr. Tennant was for ten years registrar at Oregon State College.

JOHN D. DRISCOLL, principal of Public School 16, Tompkinsville, Staten Island, for the last thirty-five years, died on August 5. He was sixty-nine years old.

MRS. DAWN NELSON WALLACE has been appointed administrative dean of Nasson Institute, the vocational school for girls in Springvale, Maine. For the past five years Mrs. Wallace has been on the faculty of Keene Normal School teaching English and expression, and for four years she was connected with the Sargent School of Physical Training. Nasson Institute opens its eighteenth year on September 9.

MR. ALFRED O. ANDERSON, of Cleveland, has been appointed director of physical education in the Kansas City schools to succeed Dr. Fred Burger.

DR. EARL K. HOLT has been appointed director of the division for the examination of prisoners in Massachusetts, to succeed Dr. Winfred Overholser, who was recently made

assistant commissioner of mental diseases. Dr. Holt, since 1928, has been assistant to Dr. George M. Kline, commissioner of the Massachusetts Department of Mental Diseases.

PROFESSOR HARLEY LEIST LUTZ, of Princeton University, is making a financial survey of the State of Georgia, with a view to making recommendations to the legislature in regard to tax reform.

MONSIGNOR FILIPPO BERNARDINI, nephew of Cardinal Pietro Gasparri and a professor in the Catholic University at Washington, has been appointed domestic prelate to the pope.

DR. PRESTON BROOKS, dean of the school of commerce of the University of Georgia, who was recently awarded an Albert Kahn Foundation traveling fellowship, will sail from San Francisco on August 30 for a world tour.

THE new permanent executive committee of the League of Nations, which is to follow and direct the development of international intellectual cooperation on behalf of the main League Committee on Intellectual Cooperation, will consist of Mme. Curie (Poland), Señor Casares (Spain), M. Destrée (Belgium), Sir Frank Heath (Great Britain), Professor Kruss (Germany), M. Roland Marcel (France), Professor Gilbert Murray (president of the League Commission), M. Painlevé (president of the governing body of the Institute of Intellectual Cooperation), and Signor Rocco (Italy). This committee has been instructed to work out the details of the reorganization of the International Institute of Intellectual Cooperation and to take measures for its operation.

MRS. ELIZABETH SOULE, associate in nursing and public health at the University of Washington and head of that institution's nursing education department, has been granted a three-months' traveling fellowship in Europe by the Rockefeller Foundation. She will leave in the early fall. Mrs. Soule, who has been on the Washington faculty since 1920, will visit nursing centers in England, France, Italy and Germany. Another member of the Washington faculty, Dr. Thomas G. Thompson, director of the recently organized University of Washington Oceanographical Laboratories, has spent the summer in Europe under Rockefeller auspices.

PROFESSOR MCHENRY RHOADS, professor emeritus of education at the University of Kentucky and formerly state superintendent of public instruction, is compiling statistics for a systematic study of legislation pertaining to schools in the state of Kentucky from the organization of the state to the present time.

A BIBLIOGRAPHY of American travel, originally begun in 1910 by Dr. Max Farrand, is now being completed by a committee appointed by the American Historical Association headed by Professor Solon J. Buck, of the University of Minnesota. The bibliography is planned to cover all works of travel or description relating to continental United States from 1600 to 1900, except such as treat primarily of physical conditions or of a single locality. The original work was performed for several years by Dr. Farrand, and then was taken over by Dr. Bernard C. Steiner, librarian of the Enoch Pratt Free Library in Baltimore. It was interrupted during the war. It is estimated the completed work will contain 6,000 entries.

MISS ELIZABETH HOWARD WEST, librarian at the Texas Technological College, has been granted a two years' leave of absence to do work in Seville, Spain, for the Library of Congress. Her work will consist largely of selecting such documents as bear upon American history to be photographed for the archives of the Indies at the Library of Congress. She will work under the direction of Dr. Worthington Chauncey Ford, formerly chief of the manuscript division, with whom she was formerly associated and who now resides in Paris. Research work in Seville has been made possible by a gift made in 1927 of $700,000, to be distributed over a period of five years, from Mr. John D. Rockefeller, Jr., for the purpose of collecting transcripts and otherwise increasing the bibliographical resources of the Library of Congress.

DR. LEE F. HANMER, director of the department of research of the Russell Sage Foundation, has been chosen to head a committee on motion pictures and theaters which will submit reports to the White House Conference on Child Health and Protection. The members of the committee and their subjects were announced as follows: Mrs. Elizabeth R. Dessez, writer and

speaker on motion pictures, on "Extent of Industry"; Wilton A. Barrett, executive secretary, National Board of Review of Motion Pictures, "Legal Status"; Mrs. Thomas G. Winter, associate director of public relations, Association of Motion Picture Producers, "Public Relations"; Mrs. Mary Allen Abbott, professor of English, Teachers College, Columbia University, "Attendance of Children"; Mrs. Harriet H. Locher, formerly director of public service and educational department of Crandall Theaters, "Special Programs for Children"; Dr. Augustus O. Thomas, president, World Federation of Education Associations, "Neighborhood Motion Picture House"; Professor Howard Le Sourd, School of Religious Education and Social Service, Boston University, "Church Use of Motion Pictures"; Colonel Roy W. Winton, managing director, Amateur Cinema League, "Amateur Picture Making and Showing"; Dr. Albert R. Lovejoy, director, Cambridge School of the Drama, "Youth and the Theater"; Roy S. Woodbury, director, juvenile protective department, Children's Aid Society, "Attendance by Children"; Professor Frederick H. Koch, director, department of dramatics, University of North Carolina, "Amateur Dramatics."

Nature reports that a preliminary program has been issued of the seventh annual conference of the Association of Special Libraries and Information Bureaus to be held at New College, Oxford, from September 19 to 22, under the presidency of Mr. H. T. Tizard, rector of the Imperial College of Science and Technology. The program includes general sessions to hear an account by Brigadier-General Magnus Mowat of the year's work of the association, and a paper by Herr A. Schlomann on the organization of information in Germany. The sectional meetings will deal with the dissemination of information by exhibition and display (Sir Henry Lyons, Dr. F. A. Bather and others), animal welfare and its dependence on accurate information (Captain C. W. Hume), the inadequacy of the alphabetical subject index (Professor A. F. C. Pollard, Dr. S. C. Bradford), surveys and planning (Mr. C. C. Fagg, Mr. G. L. Pepler, Mr. S. K. Ruck), training of students (Mr. G. F. O'Riordan, Mr. B. M. Headicar), technical English (Mr. C. C. Wharton).

APPLICATIONS for assistant psychologist must be on file with the Civil Service Commission at Washington, D. C., not later than September 10, to fill a vacancy in the Public Health Service for duty at the United States penitentiary, Leavenworth, Kansas, and vacancies occurring in positions requiring similar qualifications throughout the United States. The entrance salaries range from $2,600 to $3,100 a year. Higher-salaried positions are filled through promotion. The duties are, under the administrative supervision of the chief medical officer; (a) to administer formal psychological tests of an individual and group character for the determination of the intelligence level of prisoners incident to their admission or disposition; (b) to conduct such special inquiries as will demonstrate the applicability or suitability of various formal psychological tests to the material in question; (c) to instruct subordinate officers and employees in line with the above duties; (d) to render expert opinions in consultations; (e) to perform other related duties as assigned. Competitors will not be required to report for written examination at any place, but will be rated on their education, experience and on a thesis.

CONTRIBUTIONS amounting to $60,148 have been received from 3,102 alumni of the University of Pennsylvania for the Alumni Giving Fund. Last year the total amount collected was $54,236. The movement was inaugurated four years ago and is intended to provide an unrestricted fund which may be used at the discretion of the university's trustees to meet the most pressing financial needs of the institution. Every class graduated from 1872 to 1930 was represented among the contributors. The class of '87, with contributions of $6,540, headed the list. Among the professional schools, the medical alumni as a group led with $7,458.

IT is planned to establish a university city on the Chapultepec Heights of Mexico City.

THE latest nation to undertake the construction of a student dormitory for its nationals in Paris University City is Peru. Its government has agreed to construct and equip a building of 100 rooms valued at 6,000,000 francs. Its official title will be the Peruvian Leguia Foundation of the University of Paris.

DISCUSSION

TEXT-BOOKS FROM THE OUTSIDE

TEXT-BOOKS, I prophesy, will very soon come to represent the outside rather than the inside of the classrooms. The authors will take their material from the homes, the summer camps, the business offices and workshops. And what is even more important, they will study the reactions of the pupils at almost any other time than while they are sitting in straight rows in square rooms. In a few years, perhaps a very few, the chief talking point about a book will be not so much that it grew up in the classroom and was tested there as that it gives the pupils principles which they will apply to their everyday lives. The application may be practical or it may be one of ideas and ideals.

Of course material must be tested in the classroom. But the fact that sets of lessons have been taught by one teacher for any number of years is no proof positive that they are good. If several teachers use them, the evidence is stronger but not necessarily sufficient, because lessons which are useless, or worse, may be taught for years and years. For instance, I think that the teachers who write *its* and *it's* together on the board are teaching not correct usage but confusion. Those who talk about *lie* and *lay* in the same hour do likewise. Those who say that *all right* should not be spelled like *already*, with one "l," do a wrong. The fact that these drills have been given in the classrooms and droned over by millions of children is no sign that they are good. The application which the children make of what they are taught is its true test.

The classroom is an inadequate testing ground because it necessarily limits the action and expression of the children. I was struck forcibly by its limiting influence when I visited many different schools after I had known some of the children in them and had played and worked with them during the summer. There was Jimmy sitting in the second row all smoothed up while the class was reciting on pronouns. I felt sorry for him because he looked so caged in his school clothes and cleanness. He couldn't talk when he had an idea, and he was called on to talk when he had nothing to say. He winked at me and then stared at the board in front of him.

Jimmy and I had talked about pronouns the summer before when I was paying him thirty cents an hour to help me write the "Better Sentence Builders." I wanted to try out my exercises, and since there were no schools to experiment in I hired Jimmy. He took the job reluctantly at first and only because he needed money desperately. He would rather have mowed lawns because that was something to boast about when the fellows were hanging around before the scout meetings and saying, "How'd you make your money?" Poor Jimmy couldn't say, "Helping to write grammar sentences." He hated sentences. When I asked him to write a little story just as he would write it in school, he said he never would write anything in school no matter what the teacher did or said, and that he wouldn't write for me even if I did pay him for the time.

Jimmy was just the boy for me. I wrote the sentences and then asked him to criticize them. That he could do most vigorously. Then I began to plan stories for the exercises to be written. His head was full of overnight hikes and treasure hunts and boys being chased by bulls. When he saw that I used pronouns to tell them, he asked about pronouns, and after the simplest explanation understood them for the rest of the summer. But back in the schoolroom I was afraid they had become involved in confusion again.

The thing for all writers of texts is to keep the atmosphere of other rooms and of the outdoors in their books, which can be done only by planning them where the things which are interesting to the children are happening. Imagine a grammar written in a boys' camp! The vital things would stand out. Long explanations and definitions would be cast out as the blah-blah stuff Jimmy says they are. The dative indirect object, accusative adjunct and intransitive verbs might be thrown away because they didn't smell very fresh. Pronouns would be important if they were used

for important things. Jimmy would talk more like a grammar even in camp if the grammar would begin by talking his language.

Jimmy taught me several things. Even if his teacher did complain that she could not teach him anything, I found in the summer time that his mind was full of wonderments, schemes, plans, funny little stories that he observed happening all around him.

The first thing he taught me was that the harder lessons are, the better. They should make a fellow stretch his abilities a little. He detested fiddling exercises that he could not see the use of. What he wanted was exercise that challenged him as much as making a toy airplane would. He wanted to do something hard that would be something when it was done. As I watched him work and talked to him I decided that the idea of making lessons attractive certainly should never be confused with making them easy. I often wonder if our whole educational system would not be more stimulating if it stimulated toward more work and demanded it as football or business does.

"I don't mind working hard," Jimmy said so often, "if I can see what I have to do." If he could not see immediately what he was to do, if the explanations were one word too long, he was impatient at the blah. When the explanations were not definite his mind wandered afar with no attempt to penetrate the confusion.

Jimmy liked to learn by doing things. Lessons with mechanical devices like drawing lines or filling in squares appealed to him because he could see his accomplishments in black and white. It was more business-like.

I became dependent upon Jimmy. His advice was good. His sound sense was exactly the thing needed in grammar exercises. One Jimmy on my side porch was worth more than a room full in a classroom, but to make the check up surer and to widen my experience I hired other Jimmies. Herman, of the eighth grade, told me about Tin Ear and Windy Weeks and how they talked over football games on the way home. Chuck told me about Slim, the fat boy, who won the marble tournament. Bill said no book was complete without a fire story, and so we made up one together. Peggy said she liked conversations in tree houses and that Camp Comealong is the best name for a girls' camp. Harvey, in the fifth grade, wanted stories about hairpin curves, air pilots, eagles, tigers and his police dog Cop. Those were the things he wanted to talk about, and he would respect a grammar that would show him how to do it.

HELEN RAND

UNIVERSITY OF ILLINOIS

SPECIAL CORRESPONDENCE

ORIENTAL CULTURE SUMMER COLLEGE, TOKYO

A FOUR-WEEK summer school is offered in Tokyo this July for students from America, with lectures by professors of the Imperial University and other higher institutions. The school is especially arranged to promote mutual understanding between East and West by the organization, "Japanese Abroad," which has sent Japanese student tour parties to America and now this year is welcoming American students to Japan with this significant program of lectures and conferences and observation tours. Two-week courses are being given on the general history of Japan, geography, geology, literature and drama, psychology and philosophy and Japanese art, and one-week units on industry, agriculture and fisheries, music, religion, commerce, education and moral ideas, with shorter units on foreign politics, social problems and municipal administration. Special lectures on many other subjects are also included. Field excursions are arranged providing two-day week-end trips at the end of each week and a nine-day field trip between the two fortnightly sessions of the college. The lecturers include Dr. Anesaki, director of the Imperial University Library, Dr. Nitobe, formerly under-secretary general of the League of Nations and well known to Americans, and many professors of the Tokyo and other universities. A limited number of Japanese students and teachers will follow the courses and serve as interpreters for the American students in attendance. The organization has secured reduced prices from hotels, railroads and else-

where, as well as provided arrangements for the entertainment of the party by municipal and other organizations in connection with the field trips. The approximate expense for the four-weeks' tour, including steamer travel from American ports to Japan and return, hotel charges, meals, carfare, etc., and tuition, is $662 for first class travel, $530 for second class and $290 for third class.

The school is sponsored by a long list of Japanese and Americans including the Japanese premier, minister of foreign affairs, minister of education, president of the Tokyo Imperial University, and others. The director of the Summer School is Mr. Kaga Nakamura, the editor and proprietor of *Japanese Abroad*, who with his associates is to be congratulated upon this splendid undertaking.

The writer, speaking from personal experience in taking groups of graduate students to England and the Continent in field study of comparative standards of living, can not commend too highly this well-organized effort to put the facts of Japanese life before American students. Few Americans have been aware that inexpensive travel to the Orient is possible and that "Tourist Third" classification is beginning to appear on the Pacific. This will certainly multiply student travel to the East and educational organization of the sort planned will greatly increase the benefit of such travel. Doubtless, extended summer courses with credit transfers to American institutions will be also offered in due time. One may hope that the Tokyo Summer School of Oriental Culture will be repeated in succeeding years, and that ultimately thousands of American students and teachers may avail themselves of this fine fraternal offering by Japanese educators.

BENJAMIN R. ANDREWS
TEACHERS COLLEGE,
COLUMBIA UNIVERSITY

AN EDUCATIONAL WEEK FOR ALUMNI AT THE UNIVERSITY OF MICHIGAN

WITH the purpose of bringing the alumni into closer intellectual contact with the university, an alumni educational week was held in Ann Arbor during the five days in the interval between commencement and the opening of summer school. The sessions of this Alumni University, as it was called, began on Tuesday, June 24, and ended on Saturday, June 28.

Some seventy-four alumni were actually enrolled for the period, though a number of others attended occasional lectures. Of this number sixty-one were actually graduates or former students. The others were alumni of other universities or wives of alumni, not graduates of the university, who attended the sessions with their husbands. Some twenty-six different classes were represented, with the oldest a member of the class of 1873 and the youngest from the class of 1930.

The program offered this group was as follows:

9:00 A. M.

"A New Approach to American History"—Professor A. S. Aiton.

"Modern Art"—Associate Professor Bruce M. Donaldson.

"Heredity and the New Evolution"—Professor A. F. Shull.

10:00 A. M.

"America and the Far East"—Professor J. R. Hayden.

"The Symphonic Form in Music"—Professor E. V. Moore.

"Investments"—Professor R. G. Rodkey.

11:00 A. M.

"Geology in the Landscape"—Professor W. H. Hobbs.

"The Philosophy of Art"—Professor D. H. Parker.

"Some Modern Trends in Landscape Design"—Professor A. Tealdi.

2:00 P. M.

"Studies in Contemporary Drama"—Professor Homer Woodbridge.

Each of these subjects was presented through a series of five conferences which took the form either of lectures or round-table talks. Mornings were largely given to this educational program, while, with the exception of one class, the afternoons were left free for recreation, with a number of those enrolled using the opportunity to play golf.

A special reception was held for the alumni students at the William L. Clements Library of American History on the first evening of the

session. President Alexander G. Ruthven, of the university, extended a formal welcome to the alumni enrolled, while Professor Randolph Adams, custodian of the library, gave an address on source materials for American history exemplified in the Clements collection. Another interesting feature of the week's program was the first address after his return to America by Professor Lawrence Gould, second in command of the Byrd Antarctic Expedition. It is interesting to note that this lecture had been arranged for by wireless while Professor Gould was still in Little America. A very competent repertory company also gave presentations of "The Sea Gull," "Serena Blandish" and "The Royal Family," which were much appreciated.

The alumni students who attended the Alumni University were enrolled and paid their fees to the treasurer of the university upon the same basis as ordinary students. The members of the faculty who participated in the program were not only interested but enthusiastic over the cordial and cooperative spirit with which their efforts were received.

The spirit of those enrolled is shown by letters which have been received. One alumnus writes, "For once, at least, in my life I planned a vacation over which I had no regrets—during or after."

Among those attending were some eight engineering and architectural graduates. The following letter from one of this group is characteristic:

> Those of us who attended the technical colleges had very few of the more general subjects when we were undergraduates. Looking at it from the standpoint of an engineer, the courses which would interest me would be those in business economics, psychology and many other subjects far removed from the subject of engineering.

The only criticism seemed to be that there were too many conflicts in the courses and that those enrolled could not take everything that was offered. Judging from some replies, many would have welcomed the opportunity to start at nine o'clock in the morning and continue until six—a rather ambitious hot weather program.

Along with the announcements of the courses, suggested readings were indicated by the different members of the faculty. Commenting upon this one alumnus said:

> Students like myself who are electing these courses for the first time are anxious to get the fundamentals. The lectures have formed a good foundation and along with the suggested reading furnish splendid material which we are now using for further study.

A general hope was expressed that the program would be continued next year with the following characteristic comment:

> I see no reason why the enrolment should not double or treble itself for 1931 and increase proportionately in each succeeding year as the benefits of the Alumni University become more generally recognized.

Similar alumni educational conferences have been held at Lafayette, where the second Alumni College brought an enrolment of one hundred and twenty. Beloit reported an enrolment of thirty for the first Alumni College, and Wellesley reported about seventy-five alumnae in attendance at a three-day educational conference, June 17 to 19, celebrating the fiftieth anniversary of the college.

WILFRED B. SHAW,
Director of Alumni Relations
UNIVERSITY OF MICHIGAN

QUOTATIONS

AN INDIAN SCHOOLMASTER

ALL eyes have been on India, but no one seems to have said anything about the Indian schoolmaster, who has done more than any one to make the modern native what he is.

Typical of the village schoolmaster was an old friend whose name will never figure in any reference book, but who was hale and flourishing, despite his sixty years. His beard was patriarchal, his robes loose and flowing, and his learning supposed to be inexhaustible. It must be confessed that he also went in for a little harmless witchcraft. If a cow fell sick or a domestic animal were injured, the sorrowing

owner would come before the Moonshee with gifts and would receive in return a paper bearing mystic marks. This paper would be bound round the arm of the buyer and would be regarded as a most potent charm. If the animal recovered the Moonshee was praised, while if the animal died the owner was blamed for having offended the spirits in some detail.

Moonshee, however, existed outwardly as a scribe and schoolmaster. Because of this he was allowed to mix with foreigners, and so he picked up a smattering of languages and a fairly wide general knowledge. From a junk stall and from grateful students he had picked up two terrestrial globes, a useless electrical machine, a few books on mathematics and a few bottles in which he kept medicines. Outside his house stood a banyan tree, and beneath its shade from eight in the morning until mid-day he held his score or two of bald-pated, half-naked youngsters breathless and wide-eyed as he amazed them with his knowledge. By his side was a suspiciously worn rattan cane, and a pile of Orient literature consisting of palm leaves bearing engravings made by a sharp pointed steel skewer. The leaves were stitched together and opened out like a fan, revealing proverbs and quotations inscribed in a style which the poor natives could never hope to equal.

His method was to divide his class into several sections, ranging from beginners to comparatively advanced students, and to set them work to do while he himself drowsed or read a book. Curiously enough, though the noise was deafening from the various groups trying to shout their lessons loudest, he could immediately detect a mistake and come down with the rattan cane upon the offending group.

By noon teacher and scholars were sleepy, and they would then break up, and with many salaams the boys would leave Moonshee to his rest. Sometimes his rest would be disturbed by a native desirous of sending a letter. A woman would come to him perhaps asking him to write a letter to her husband, a Sepoy on active service hundreds of miles up country. He fumbled among his robes until he found his reeds and his earthen ink bottle with the dried up sponge inside. Into the bottle he poured a few spots of water, and began, or rather told the woman to begin. She, however, had no skill in letter composing, and the Moonshee waited patiently, knowing that the neighbors would gather round and be impressed by his accomplishments. After a time she told him what kind of things she wanted to say to her husband, and when she had finished he extracted from her the name and address of the man and then said:

> That will do. You wish to tell him that you and family are well, that you hope he is the same and happy. That you are in want of rupees, and you wish him to send some as you have no rice in the house, no ghee, no betelnut.

The woman and the villagers gathered round raised their hands in amazement at this clever way of putting it, and so the letter was written and sent.

After the mid-day rest the Moonshee's purgatory began, for he then went to teach English youths something of the native language. English boys had no reverence for the Moonshee's white beard nor for his alleged learning, and they annoyed him by drawing caricatures of him. Moonshee, however, put up with all these trials for, after all, the English sahibs paid him well, and he knew that deep down even the English boys who teased him said among themselves "after all the old Moonshee is a good fellow."—*Correspondent of the London Times Educational Supplement.*

EDUCATIONAL RESEARCH AND STATISTICS

RUBBER MICROMETERS

EDUCATIONAL literature in recent years has described innumerable studies of marking scales and offered many suggestions for their improvement. Despite differences in detail, these suggestions are in essential agreement as to the following principles upon which measures of achievement should properly be based: (1) that the performance of a representative group sets the most logical standard of scholastic achievement; (2) that any individual's "mark" should properly represent his relative

achievement within such a group, and (3) that equal relative achievement, as thus judged, should receive equal credit, whether in the same or different subjects of study. Nevertheless, there is ample evidence to indicate that many institutions whose scholastic and instructional standards are admittedly of high rank remain quite unimpressed by these simple and common-sense principles of grading which educational science has long accepted.

Part of the wide-spread dissatisfaction with the present "credit system" of higher education may in fact be attributed to inaccuracies in the very measures by which "credits" are so largely determined. It is bad enough to have to tie together so many credits as if they were pieces of string which eventually must reach a certain definite length. It is worse to find that some of these pieces are rubber bands of variable length and elasticity. Granted that "crediitis" is in itself a malignant disease, so long as it persists, its ravages may at least be lessened to some extent by establishing more uniform equivalence between the necessary credits and true performance. This paper, in common with many previous studies, suggests that such equivalence in our collegiate marking systems is by no means generally achieved to-day. In fact, many able teachers are sufficiently—often consciously—so individualistic in their systems and standards of grading as to have little regard for either the theories generally held by authorities on educational measurement or for any system of coordinating their own marks with those given by their colleagues.

The resulting confusion in standards has its inevitable reaction upon the student, who—perhaps as well as any one else—knows something of his own real effort and achievement in different subjects of study. Many a professor who holds out for his sacred and inalienable right to mark students as he sees fit will nevertheless agree that some other professor's marks are absurd. In neither case does it take the student long to find out which is a "snap" course and which is a "tough" one. Both may play equal havoc with the measurement of real achievement.

Such problems as this differ widely in their implications for different institutions. Even if one university were disposed to learn from the experience of another—which often seems unlikely—conclusions reached from study of a certain situation should not necessarily be regarded as equally applicable elsewhere. Certainly at many institutions it would be the height of folly to try to eliminate all subjectivity in marking by adoption of a strictly mechanistic system. The real effectiveness of many teachers—to say nothing of the tranquillity of their digestive processes—would be quite ruined, for example, if they were required to give out just such a percentage of A's, B's and D's for every section. Devotion to the beautiful symmetry of the normal probability curve sometimes makes us forget its essentially theoretical nature. How the general common-sense principles of measurement may best be applied in any given situation, as well as proof that they need to be applied at all, can best be determined from local and immediate evidence.

At the request of the university administration and of the dean of freshmen, the department of personnel study at Yale therefore made a detailed analysis of the distribution of classroom grades received over a six-year period by members of the freshman classes of 1926 to 1931 inclusive. Sufficient further data for the succeeding class, 1932, although not here presented, were subsequently obtained to confirm, for last year, the tendencies initially noted. The purposes of the investigation were (1) to analyze the marks distributed by different departments of study and (2) to compare the reliability and characteristics of grades assigned by inexperienced instructors with those given by teachers of greater experience.

I

The study involved tabulation of nearly 50,000 marks; that is, February and June grades in all subjects (usually five) for all freshmen (4,985 individuals) in six successive classes. The results accordingly are based on a sufficient number of cases to yield reliable data, especially as the successive year-by-year departmental trends, as well as the tendencies over the entire period of six years, were analyzed. Although charts and tables were prepared illustrating

these distributions for the class as a whole, and for each of twelve departments of study, space will permit reproduction here of only a few of these data.

Distributions of the total freshman grades assigned are quite uniform and show relatively little variation from year to year. Class averages have risen slightly over the six-year period, consistently though by small steps. There has been noticeably greater improvement in the February than in the June grades during the six years, reflecting a somewhat increasing rigor of entrance selection and consequent progress in reducing the amount of elimination

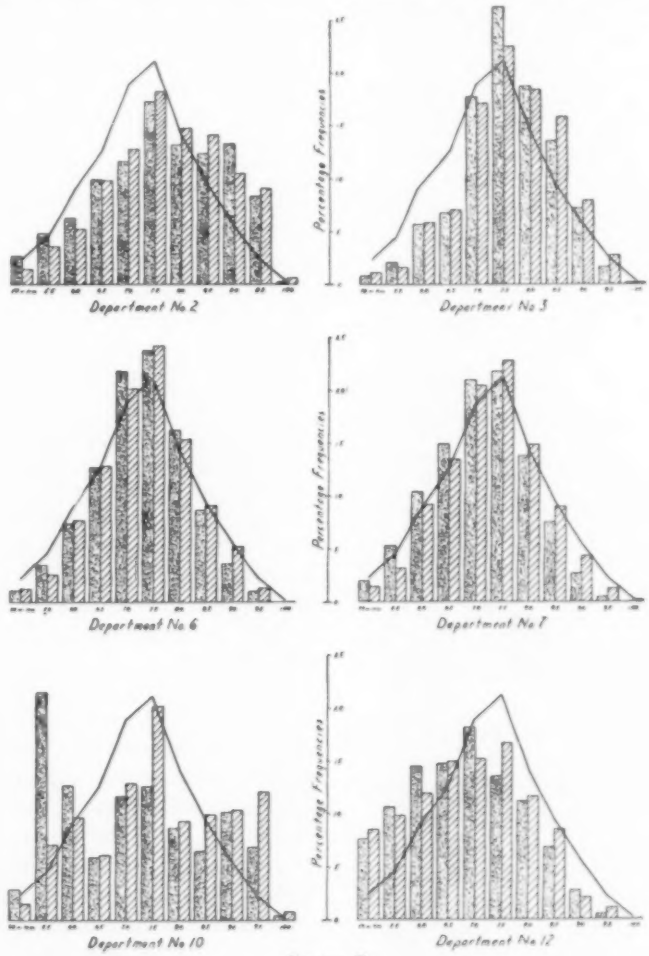

CHART I

FRESHMAN GRADE DISTRIBUTIONS IN CERTAIN SUBJECTS OF STUDY, COMPARED WITH THE TOTAL DISTRIBUTION OF ALL GRADES (47,730) ASSIGNED TO YALE FRESHMEN DURING THE SIX-YEAR PERIOD OF 1922–1927 (CLASSES 1926 TO 1931) INCLUSIVE.

Each graph is expressed in *percentage frequencies*, showing by the height of vertical columns what percentage of all grades in each subject over the entire six-year period analyzed were assigned at each 5-point interval on the (horizontal) marking scale. Stippled columns represent first semester and cross-hatched columns the second semester grades.

The curve, included as a reference line in each plot, represents the percentage distribution for *all* freshman grades, *i.e.*, the norm with which each separate departmental distribution may properly be compared.

necessary at mid-years. Because of the rigid entrance requirements, freshman mortality at Yale is very much less than at most other American universities. In the last freshman class (1932), for example, 91 per cent. of all freshmen who matriculated advanced to the sophomore class at the end of the year. Of the 9 per cent. who did not continue as sophomores, about four fifths (only 7 per cent. of the entire class) were eliminated for scholastic reasons.

Inspection of the total-grades curve shows that, although uniform, it is highly restricted in range with a very pronounced mode and a large number of cases closely packed in about the central tendency. Freshman year grades are reported on a scale of 100, in steps of 5 for each subject, and use of the 5-point marking interval is partly responsible for this restriction in spread. Sixty is the passing mark; 75 represents a "quality credit"; grades from 80 to 89 inclusive represent honors of the second rank; grades of 90 or better, honors of the first rank.

As the theoretical mid-point of distribution is a little less than 75 (thus making the quality credit represent "better than average" work), there is a tendency for the distribution to be skewed somewhat towards the lower limit. Probably the only serious criticism that might be made of the grade distribution as a whole, however, is that it is somewhat too restricted in range.

Grades given by each department over the six-year period were separately compared with the distribution for marks in all subjects. Using the latter as a reference line shows, in Chart I, the relative agreement of grades given in certain departments, with the distribution of all freshman marks over the period in question. Departmental variations from this norm are also illustrated by Table I, which shows the mean grades and the percentage of students passed (*i.e.*, the percentage of grades of 60 or above) given by each department, both at mid-years and in June.

The departments in the table have been arranged in order of their mid-year grade averages. It will be seen that, with one exception, there is little change between the February and June ranking on this basis. In this one case

TABLE I

GRADES FROM EACH OF TWELVE FRESHMAN DEPARTMENTS AT YALE UNIVERSITY OVER A SIX-YEAR PERIOD COMPARED IN RESPECT TO:

(1) Percentage of all students passed
(2) Departmental mean
(3) Deviation of departmental mean from the six-year average of all freshman grades

Data for individual departments and respective numbers of cases		February			June		
		Per cent. passed	Mean	Deviation from the norm	Per cent. passed	Mean	Deviation from the norm
1	307	95	81.3	+8.9	94	79.7	+6.3
2	969	86	76.4	4.0	90	77.1	+3.7
3	3,811	92	75.6	3.2	91	76.2	+2.8
4	6,260	80	74.0	+1.6	80	73.8	+ .4
5	1,972	88	73.8	+1.4	90	74.9	1.5
6	9,669	87	72.9	+0.5	87	73.4	0.0
7	9,658	82	71.3	−1.1	86	72.8	−0.6
8	2,298	86	71.3	−1.1	88	72.3	−1.1
9	5,451	77	70.9	−1.5	79	71.6	−1.8
10	1,059	63	70.9	−1.5	81	76.1	+2.7
11	5,450	78	70.7	−1.7	88	72.6	−0.8
12	826	68	68.0	−4.4	70	68.5	−4.9
General average for all departments		83	72.4	0.0	86	73.4	0.0

(10) the departmental average is 5 points higher, and 18 per cent. more students are passed, in June than in February. This shift is due to a particular pedagogical device which the department considers helpful in that subject. The unusual bimodal grade distribution thus incidentally induced for subject 10 is illustrated in the accompanying graph.

The difference between average grades for the hardest marking and easiest marking departments is, in February, 13.3, and in June, 11.2 points, the standard deviation for the entire distribution of individual subject grades being 10.2.[1] The maximum corresponding differences in the percentage of individuals passed

[1] The standard deviation of students' semester *averages* for total work was, over this same six-year period, 7.0.

amount to 32 per cent. in February and 24 per cent. in June. It will be noted that considerable disparity exists in some departments between the average grade assigned and the proportion of students passed or failed. Thus subjects 10 and 11 (both languages) have almost identical grade averages yet differ by 15 per cent. in the percentage of students passed at mid-years.

The significance of such variations between departments can readily be imagined. For instance, a student who happens to select a certain normal combination of first-year courses will have about one chance in three, based on probabilities alone, of failing two of his freshman courses and of being dropped as a consequence. A certain other frequently elected combination reduces the probability of failing two courses to less than one chance in ten. In this connection it is interesting to note that the only two subjects, English and history, required of all freshmen during the period studied are quite uniform in respect both to their own yearly fluctuations and to conformity with the general norm. It is therefore among the elective courses that the greatest variability in marking ranges occurs.

For this reason it seemed advisable to determine, by other means, whether the differences in grades characteristic of the different departments of study represented actually different levels of ability on the part of their students. The groups taking the elective courses were therefore compared in respect to their entrance examination averages and scholastic aptitude test scores. With slight exceptions no significant differences were revealed. Where these differences did exist, they were of a much lower order than would account for the grading differences noted above.

Considering fundamental principles of grading in general, it seems reasonable to assume, whatever marking system is used and however the marks are expressed, that they can have only one logical interpretation or significance—that is, as the measure of an individual's performance compared with that of the whole group of which he is a part. A grade of 60, on the scale used in the freshman year at Yale, represents, to be sure, the instructor's subjective judgment that the individual has done just the bare amount of work which warrants his receiving credit for having passed that course. Yet that judgment in turn depends upon what the instructor has come to regard as a normal standard of freshman performance. Such a grade certainly does not mean, in any absolute sense, that the student is just 60 per cent. correct, or even that he has obtained about three fifths as much knowledge of that subject as the instructor expects him to have absorbed. Furthermore, the group with whom any student has been competing scholastically has in large measure determined his particular mark. For classes conducted in small groups and in a rather intimate fashion, with chiefly subjective essay-type examinations and many daily quizzes, the marking of students (even though performed by most instructors with real care and conscientiousness) nevertheless remains highly subjective. There can be no absolute scale to determine such grades for each individual, irrespective of the performance of his fellows.

In fact, marking probably resolves itself not so much to grading upon an absolute scale as to determining the relative rank of individuals. As a matter of convenience for recording such ranking, marks have been devised to represent objectively how students stand in comparison with each other. Subsequent difficulties have arisen because those who use the grades forget that they are merely symbols of ranking and endow them with a supposititious, sacrosanct exactness which they do not actually possess. Despite the demonstrable variations in real achievement—as measured by the only valid criterion, group performance—which may characterize like marks in different departments of study, once these marks are reported they are supposed to be fixed and equivalent units. They are thereafter treated as if they were as immutable and authoritative as is the standard meter in Paris.

In order to investigate further the variances revealed by this study, individual distributions, for each year over the six-year period, were also plotted for each of the departments in question. These revealed in a quite striking fashion that those departments whose distributions in general showed widest diversions from the norm also tended to show the greatest fluctuations from year to year. There is no doubt but that

the actual achievement of Yale freshmen in these different subjects for the period studied has not varied greatly. Both their numbers and scholastic performance prior to admission have remained relatively constant. There has been, as has been noted, marked consistency in the yearly trend of average grades for total work. When any one department's distribution

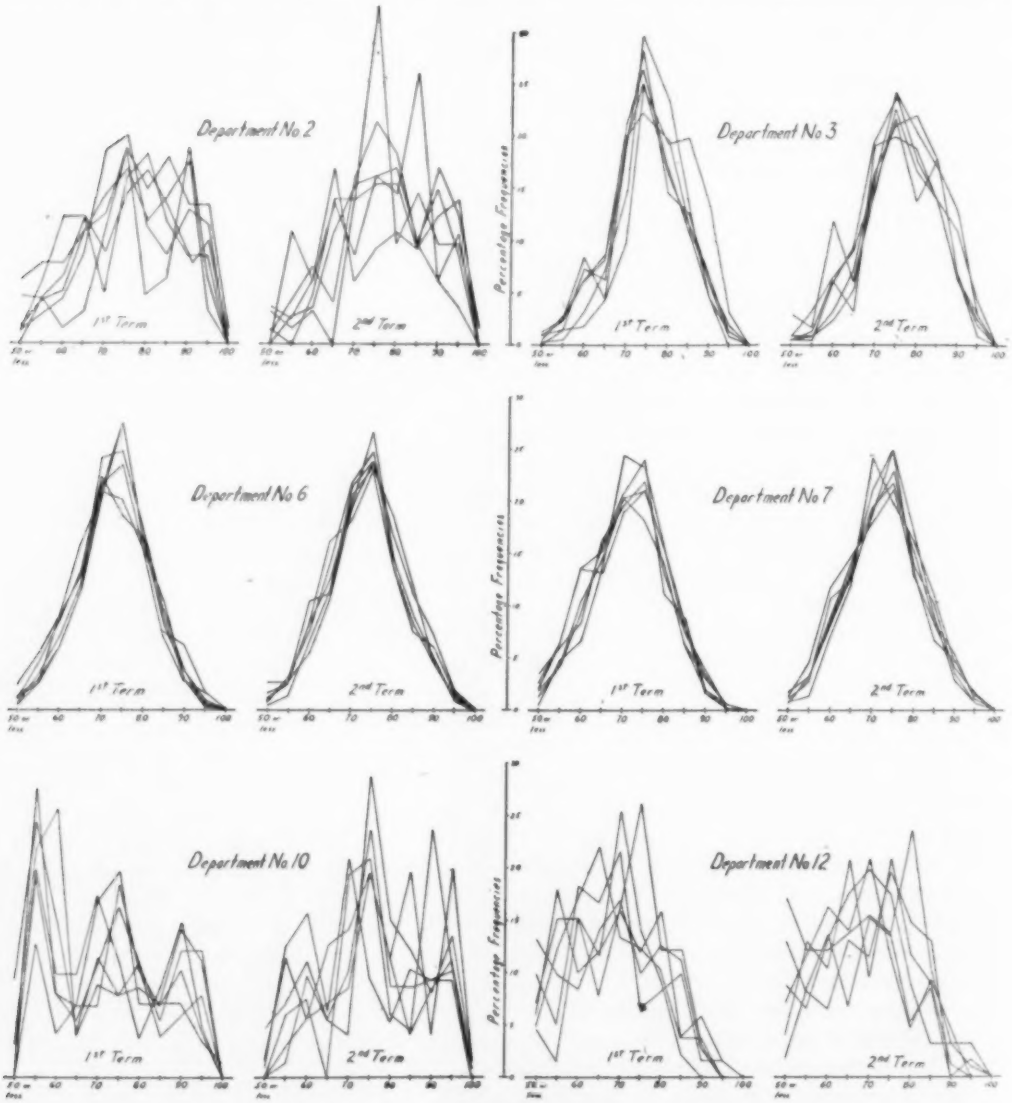

CHART II

YEARLY VARIATIONS, THROUGHOUT SUCCESSIVE YEARS, IN GRADES ASSIGNED BY THOSE FRESHMAN DEPARTMENTS WHOSE TOTAL SIX-YEAR DISTRIBUTIONS ARE PRESENTED IN CHART I.

This chart is constructed in the same manner as was Chart I and represents, in percentage frequencies, the successive yearly grade distributions which, when combined, make up the total six-year data there illustrated. In Chart I each department was compared with a general norm; in Chart II each department is compared with itself, year by year. As six largely overlapping distributions appear in each of these plots, clarity necessitates their being presented here as unsmoothed curves instead of in the form of bar diagrams.

of grades over such a period of consecutive years shows marked variability as compared even with its own six-year average, the explanation must therefore lie in departmental idiosyncrasies.

To illustrate this point further, graphs are here reproduced showing the yearly fluctuations for the departments whose general averages vary most from the norm and for the two largest departments, English and history, which conform most closely to the total distributions. This comparison is particularly important in respect to the latter departments because it shows that real consistency exists in their marking, and that their close agreement to the norm is not to be attributed wholly to the greater proportion of English and history grades which the total distribution necessarily includes.

The use of cumulative frequency or percentile graphs, and also a simple transmutation formula, have been suggested to the freshman faculty as means of equating marks accorded in different subjects. Assuming that the real significance of any mark is indicated by the proportion of the class attaining just that level, it is readily possible from a cumulative frequency distribution to see at a glance what any mark given by a specific department corresponds to, in terms of the grade distribution for the class as a whole. Since marks are, as a matter of fact, regarded as uniform and interchangeable between one department and another (so that, for example, a 60 in one subject, once it has been officially recorded, thereafter means just the same in the life or fate of a student as does 60 in any other subject), then *whatever percentage of students exceed the passing mark in their general average of all courses sets the standard of what is really meant by a passing grade.* It is equally obvious that failure to equate such values introduces the possibility of great individual injustice being done in certain cases, through the varying actual standards which superficially similar marks represent.

II

In order to obtain information on the possible effect of inexperience in teaching upon grades, a separate analysis was made of marks given by all instructors in their first year, all in their first or second year and all with more than two years' experience. Grouping all the subjects of study together, the following slight differences were observed.

COMPARISON OF FRESHMAN GRADES (ALL SUBJECTS) GIVEN BY FIRST-YEAR INSTRUCTORS, ALL FIRST- AND SECOND-YEAR INSTRUCTORS AND ALL INSTRUCTORS OF TWO OR MORE YEARS' EXPERIENCE

	Mean grades		Standard deviations	
	Feb.	June	Feb.	June
First-year men ...	72.5	73.4	9.9	9.7
All first- and second-year men...	72.4	73.4	9.9	9.6
All in third year or over	72.4	73.3	10.5	10.4

More significant differences were, however, noted for individual subjects, of which the most noticeable is the greater spread in the marks assigned by experienced teachers. More detailed inspection of the data indicates that inexperienced teachers fail a somewhat smaller percentage of students and give a slightly smaller percentage of other distinctly low or very high marks. Probably through lack of confidence in their own judgment, they tend to grade even more towards the mean and less towards the extremes than do their more experienced colleagues. As the freshman grades in general are less well spread than, according to normal distribution standards, they should be, this tendency towards further restriction by inexperienced teachers is probably prejudicial in some degree to sound procedure.

Without going into any further detail regarding departmental differences between the experienced and the inexperienced instructors, it may simply be noted that those departments which, as a whole, show the most irregular distributions or largest variations from the class norm also exhibit the greatest differences (sometimes in one direction and sometimes in another) between the marks given by their younger and their older teachers. In other words, it seems to take some time for new appointees to learn and take unto themselves the peculiarities characteristic of their particular departments.

SUMMARY

1. The department of personnel study at Yale University analyzed the distribution of all grades received by the Yale freshmen of 1926 to 1932 inclusive, in order to compare the assignment of marks (*a*) by different departments of study and (*b*) by inexperienced as compared with experienced teachers. The data here presented are from the initial and most detailed part of the study, covering work of the first six of these classes. Figures for the class of 1932 were subsequently found to agree closely with those for the preceding six-year period.

2. Comparison of the marks distributed by twelve different departments of study with the norm of all freshman grades over the same period indicates that departmental standards vary considerably, as judged either by mean grades or by the percentage of students passed.

3. Whatever value given grades do have varies considerably for some departments from year to year because of the inconsistency of standards in those subjects of study.

4. A simple system of transmutation would make it possible to assign equivalent values to like marks in different subjects, so that these would then represent, as they now do not, actually corresponding degrees of scholastic performance as judged by like standards.

5. Any system of automatic or arbitrary action with reference to scholastic deficiency on the present basis of marking may work serious individual injustice in some cases, unless due allowance is made for variations in departmental standards of scholarship.

6. Those departments whose marks vary most from the class mean also exhibit the most noticeable fluctuations from year to year, as compared even with their own subject norms. These departments also tend to show greatest divergence between the grades assigned by their experienced and inexperienced teachers.

7. Experience, probably because of the instructor's increased confidence in his own judgment, makes for a wider (and in that respect therefore a more favorable) distribution of grades.

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NOVEMBER 26, 1929

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